

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

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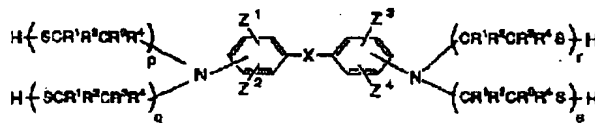
APPLICATION DATE : 20-12-94
APPLICATION NUMBER : 06316178

APPLICANT : NIPPON SHOKUBAI CO LTD;

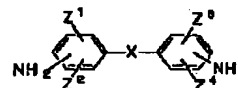
INVENTOR : TOMITA TAKASHI;

INT.CL. : C07C323/24 C07C319/16 C07C323/37
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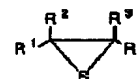
TITLE : SULFUR-CONTAINING COMPOUND
AND ITS PRODUCTION



X
409



II



III

ABSTRACT : PURPOSE: To produce a new sulfur-containing compound having a highly reactive amino group and a highly reactive mercapto group in the molecule and useful, e.g. as a curing agent for epoxy resins, a polymer modifier, a cross-linking agent, a vulcanization agent and a monomer for polymerization.

CONSTITUTION: A compound of formula I [X is nothing or O, S, sulfinyl, sulfonyl, amide or a 1 to 4C alkylene; R¹ to R⁴ each is H, an alkyl or an aromatic; (p), (q), (r) and (s) are each 0 to 10, etc.; Z¹ to Z⁴ each is H, a 1 to 4C alkyl or a 1 to 4C alkoxy, a halogen, cyano, nitro or trifluoromethyl]. This compound is synthesized by reacting an amino compound of formula II with a thiirane compound (e.g. ethylene sulfide) of formula III in a solvent (e.g. benzene) at room temperature to 200°C. The compound of formula I is excellent in electrical insulation properties and heat resistance because of its aromatic rings existing in the molecule.

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010431185 **Image available**

WPI Acc No: 1995-332505/ 199543

Sulphur-contg. cpds. used as resin hardeners, modifiers,
etc. - obtd. by

reacting amino cpds. with thiirane cpds.

Patent Assignee: NIPPON SHOKUBAI CO LTD (JAPC)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date
JP 7228567	A	19950829	JP 94316178	A	19941220
199543	B				

Priority Applications (No Type Date): JP 93321772 A
19931221

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 7228567	A		12	C07C-323/24	

Abstract (Basic): JP 7228567 A

S-contg. cpds. of formula (1) are claimed, where X is none or O, S, sulphonyl, sulphonyl, amide or opt. substd. 1-4C alkylene; R1-R4 are each H, alkyl or aromatic; p, q, r, s = 0 or integer 1-10; p+q+r+2 = average 1-40 per mole; and Z1-Z4 are each H, 1-4C alkyl, 1-4C alkoxy, halogen, cyano, nitro or trifluoromethyl. USE - Used as hardeners for epoxy resins, modified for polymers, crosslinking agents, vulcanising agents and monomers for polymerisation. ADVANTAGE - Good heat resistance and electric insulation. The reaction is easily controlled and does not form byprod., waste water and waste prod..

Dwg.0/0

Derwent Class: A60; E14

International Patent Class (Main): C07C-323/24

International Patent Class (Additional): C07C-319/16; C07C-323/37;

C08G-059/66